

**TECHNICAL ASSISTANCE REQUEST
COLUMBUS CLOSURE PROJECT
CCP 02-03-1**

**INDEPENDENT REVIEW OF STABILIZATION OF CONTAMINATED SURFACES
AND DEMOLITION OF BUILDING JN-1**

SECTION 1 -- APPROVALS FOR TECHNICAL ASSISTANCE

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Contractor Site Representative	OST/HQ Program Manager
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DOE Site Manager	OST/HQ Office Director
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DOE OH Manager	

SECTION 2 -- BACKGROUND AND PROBLEM DESCRIPTION:

Building JN-1 is a radioactively contaminated hot cell facility located on the Battelle West Jefferson site. The site is located near a residential area and is currently used as an industrial site concurrently with the cleanup activities. The current Battelle Columbus Laboratories Decommissioning Project (BCLDP) baseline technical approach centers on taking the building down and shipping it off-site as low level waste. It is critical to BCLDP that a process to stabilize, fixate, and contain the contamination be implemented in order to assure the safety of the public and the private industrial operations being located on site in accordance with appropriate regulatory limits.

The BCLDP has several additional challenges while planning for the demolition of contaminated nuclear facilities. Characterization of the building to determine the source term of contaminants has not been fully conducted. It is not clear to what extent contamination residing within the building would require decontamination prior to demolition. Evaluation and selection of the most effective method(s) to stabilize, fixate, and contain the contamination on the surfaces and within places which cannot be readily accessed is needed in order to effectively use commercial building demolition techniques.

This Technical Assistance (TA) Team is requested to focus on independently reviewing the demolition of building JN-1, including stabilization of contaminated surfaces prior to building demolition and improved demolition and containment methods.

SECTION 3 -- SCOPE:

The purpose of this TA Team is to recommend improvements to the proposed baseline technologies in demolishing the contaminated building while assuring fugitive emissions are within regulatory limits. The Team will also be expected to identify opportunities for cost and schedule savings and risk reduction.

The Team will be provided with background information concerning the problems being addressed and the presently proposed technical solutions prior to arrival at the site. Upon arrival, the Team will be given the scope of the study and expectations of management. The contractor

will provide a briefing on the current baseline technology for the decommissioning and takedown of building JN-1. The Team will tour the building with the contractor and have questions answered before the development of possible alternatives begins.

After the baseline briefing and tour, the team will determine if more effective alternatives are available to achieve the closure objectives with improved cost and schedule. While the BCLDP has a plan for demolishing the building, the team should independently develop and recommend any technologies or different technical approaches currently available which can improve the proposed approach both from an acceleration as well as regulatory compliance standpoint. The Team will be expected to address methods to reduce fugitive emissions offsite either before or during demolition. In addition to reduction in risk, the alternatives proposed should offer improvements over the cost and schedule resulting from the baseline methodology.

SECTION 4 -- SCHEDULING REQUIREMENTS:

Consistent with the present site D&D schedule for JN-1 and the sequence of work, it will be helpful if the requested TA can be accomplished by June 2003. Preparation of the technical specification(s) for subcontracted demolition of the JN-1 Building are starting now, and results of this independent review must be incorporated into these documents.

SECTION 5 -- BENEFITS:

The primary benefits from the TA Team assistance will be to improve the BCLDP plan by identifying better technologies and processes for demolition of building JN-1, which is on the critical path of the BCLDP closure. Specific problem areas to be addressed by the Team are:

- a. Review the Baseline Revision 3 approach to demolition of building JN-1, including mitigating potential radioactive air emissions, stabilization of radioactive surfaces prior to building demolition, demolition methods and containment methods.
- b. Recommend improvements to reduce fugitive emissions before and during demolition.
- c. Recommend fixatives to minimize contamination release during demolition.
- d. Recommend improved demolition techniques/technologies.
- e. Recommend appropriate degrees of containment, considering "Open Air" concepts during JN-1 demolition.

The cost estimate to complete this TA is about \$50,000, and it is anticipated that a cost avoidance of approximately \$200,000 or more should result from TA recommendations in one or more of the areas listed above.

SECTION 6 -- DELIVERABLES:

Any recommended alternatives will be developed to the extent possible and presented to DOE and Contractor management as a draft final report prior to leaving the site. It is anticipated that after completion of the final report, some portion of the team will be made available for consultation during the removal of building JN-1 and the remediation of the soil and structures underneath. The consultation may range from phone calls to site visits either individually or as part of a team.